780 CMR 120.K

MANUFACTURED HOUSING USED AS DWELLINGS

780 CMR 120.K101 SCOPE

120.K101.1 General, One- and Two-family Dwellings. 780 CMR 120.K101.1, Items 1. through 3. shall be applicable only to a manufactured home used as a single ***or two-family*** dwelling unit and shall apply to the following:

1. Construction, alteration and repair of any foundation system which is necessary to provide for the installation of a manufactured home unit.
2. Construction, installation, addition, alteration, repair or maintenance of the building service equipment which is necessary for connecting manufactured homes to water, fuel, or power supplies and sewage systems ***(refer to requirements of the Specialized Codes).***
3. Alterations, additions or repairs to existing manufactured homes. The construction, alteration, moving, demolition, repair and use of accessory buildings and structures and their building service equipment shall comply with the requirements of the codes adopted by this jurisdiction ***(also refer to requirements of the Specialized Code).***

780 CMR 120.K101.1, Items 1. through 3. shall not be applicable to the design and construction of manufactured homes and shall not be deemed to authorize either modifications or additions to manufactured homes where otherwise prohibited.

Exception: In addition to ***780 CMR 120.K101.1, Items 1. through 3***., new and replacement manufactured homes to be located in flood hazard areas as established in ***780 CMR Table 5301.2(1)*** shall meet the applicable requirements of ***780 CMR 5323 and 780 CMR 120.G***.

780 CMR 120.K102 APPLICATION TO EXISTING MANUFACTURED HOMES AND BUILDING SERVICE EQUIPMENT

120.K102.1 General. Manufactured homes and their building service equipment to which additions, alterations or repairs are made shall comply with all the requirements of 780 CMR 120.K for new facilities, except as specifically provided in 780 CMR 120.K102.

120.K102.2 Additions, Alterations or Repairs. Additions made to a manufactured home shall be in accordance with the applicable requirements of 780 CMR and of the Specialized Codes.

Building permittable alterations or repairs to an existing manufactured home which are nonstructural and do not adversely affect any structural member or any part of the building or structure ***and are in compliance with*** required fire protection ***and in compliance with energy conservation requirements*** may be made with materials equivalent to those of which the manufactured home structure is constructed, subject to approval by the building official.

Exception: The installation or replacement of glass shall be required for new installations ***in conformance with all energy related and safety glazing related requirements of 780 CMR***.

120.K102.3 Existing Installations. Building service equipment lawfully in existence at the time of the adoption of the applicable codes ***- see requirements of the Specialized Codes***

120.K102.4 Existing Occupancy. Manufactured homes which are in existence at the time of the adoption of 780 CMR 120.K may have their existing use or occupancy continued if such use or occupancy was legal at the time of the adoption of 780 CMR 120.K provided such continued use is not dangerous to life, health and safety.

The use or occupancy of any existing manufactured home shall not be changed unless evidence satisfactory to the building official is provided to show compliance with all applicable provisions of the codes adopted by this jurisdiction. Upon any change in use or occupancy, the manufactured home shall cease to be classified as such within the intent of 780 CMR 120.K

120.K102.5 Maintenance. All manufactured homes and their building service equipment, existing and new, and all parts thereof shall be maintained in a safe and sanitary condition. All ***devices*** or safeguards which are required by applicable codes or by the Manufactured Home Standards shall be maintained in conformance with the code or standard under which it was installed. The owner or the owner's designated agent shall be responsible for the maintenance of manufactured homes, accessory buildings, structures and their building service equipment. To determine compliance with 780 CMR 120.K102.5, the building official may cause any manufactured home, accessory building or structure to be reinspected.

120.K102.6 Relocation. Manufactured homes which are to be relocated shall comply with the ***applicable provisions of 780 CMR 120.K.***

780 CMR 120.K201 DEFINITIONS

120.K201.1 General. For the purpose of 780 CMR 120.K, certain abbreviations, terms, phrases, words and their derivatives shall be

construed as defined or specified in 780 CMR 120.K201.

ACCESSORY BUILDING. Any building or structure, or portion thereto, located on the same ***BUILDING SERVICE EQUIPMENT***. Refers to the plumbing, mechanical and electrical equipment including piping, wiring, fixtures and other accessories which provide sanitation, lighting, heating ventilation, cooling, fire protection and facilities essential for the habitable occupancy of a manufactured home or accessory building or structure for its designated use and occupancy. ***(Refer also to the definitions and requirements of the Specialized Codes).***

MANUFACTURED HOME. A structure transportable in one or more sections which, in the traveling mode, is eight body feet (2438 body mm) or more in width or 40 body feet (12 192 body mm) or more in length or, when erected on site, is 320 or more square feet (30 m^2), and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air–conditioning and electrical systems contained therein; except that such term shall include any structure which meets all the requirements of 780 CMR 120.K201 MANUFACTURED HOME except the size requirements and with respect to which the manufacturer voluntarily files a certification required by the secretary (HUD) and complies with the standards established under 780 CMR 120.K For mobile homes built prior to June 15, 1976, a label certifying compliance to the Standard for Mobile Homes, NFPA 501, ANSI 119.1, in effect at the time of manufacture is required. For the purpose of these provisions, a mobile home shall be considered a manufactured home.

MANUFACTURED HOME INSTALLATION. Construction which is required for the installation of a manufactured home, including the construction of the foundation system, required structural connections thereto and the installation of on–site water, gas, electrical and sewer systems and connections thereto which are necessary for the normal operation of the manufactured home.

MANUFACTURED HOME STANDARDS. The Manufactured Home Construction and Safety Standards as promulgated by the United States Department of Housing and Urban Development.

780 CMR 120.K301 PERMITS

120.K301.1 Initial Installation. A manufactured home shall not be installed on a foundation system reinstalled or altered without first obtaining a permit from the building official. A separate permit shall be required for each manufactured property as a manufactured home which does not qualify as a manufactured home as defined in 780 CMR 120.K201.

home installation. When approved by the building official, such permit may include accessory buildings and structures and their building service ***equipment (when applicable, refer to the Specialized Codes for building service equipment requirements)*** when the accessory buildings or structures will be constructed in conjunction with the manufactured home installation.

120.K301.2 Additions, Alterations and Repairs to a Manufactured Home. A permit shall be obtained to alter, remodel, repair or add accessory buildings or structures to a manufactured home subsequent to its initial installation. Permit issuance and fees therefore shall be in conformance with the codes applicable to the type of work involved.

An addition made to a manufactured home as defined in these provisions shall comply with 780 CMR 120.K.

120.K301.3 Accessory Buildings. Except as provided in ***780 CMR 120.K301.1,*** permits shall be required for all accessory buildings and structures and their building service equipment. Permit issuance and fees therefore shall be in conformance with the codes applicable to the types of work involved.

120.K301.4 Exempted Work. A permit shall not be required for the types of work specifically exempted by the applicable codes. Exemption from the permit requirements of any of said codes shall not be deemed to grant authorization for any work to be done in violation of the provisions of said codes or any other laws or ordinances of this jurisdiction.

780 CMR 120.K302 APPLICATION FOR PERMIT

120.K302.1 Application. To obtain a manufactured home installation permit, the applicant shall first file an application in writing on a building permit form furnished by the building official for that purpose. ***Every*** such application shall:

1. Identify and describe the work to be covered by the permit for which application is made.
2. Describe the land on which the proposed work is to be done by legal description, street address or similar description that will readily identify and definitely locate the proposed building or work.
3. Indicate the use or occupancy for which the proposed work is intended.

4. Be accompanied by plans, diagrams, computations and specifications and other data as required in 780 CMR ***5110 and 5111, as applicable***.
5. Be accompanied by a soil investigation when required by ***780 CMR***.
6. State the valuation of any new building or structure or any addition, remodeling or alteration to an existing building.
7. Be signed by permittee, or permittee's authorized agent, who may be required to submit evidence to indicate such authority.
8. Give such other data and information as may be required by the building official.

120.K302.2 Plans and Specifications. See 780 CMR 5110 and 5111.

Exception: Where precast, interlocking panelized foundation wall systems are utilized, engineering calculations are required.

120.K302.3 Information on plans and specifications. See 780 CMR generally and 780 CMR 5110 and 5111.

780 CMR 120.K303 PERMITS ISSUANCE

120.K303.1 Issuance. See 780 CMR 5110 and 5111.

120.K303.2 Retention of Plans. See 780 CMR 5111.

120.K303.3 Validity of Permit. See 780 CMR 5111.

120.K303.4 Expiration. See 780 CMR 5111.8

120.K303.5 Suspension or Revocation. See 780 CMR 5111.12.

780 CMR 120.K304 FEES

120.K304.1 Permit Fees. See 780 CMR 5114.

780 CMR 120.K.305 INSPECTIONS

120.K.305.1 General. See 780 CMR 5115.

120.K305.2 **Required inspections**.

120.K302.5.1 Structural Inspections for the Manufactured Home Installation. See 780 CMR 5115.2.

780 CMR 120.K303 MANUFACTURER'S INSTALLATION REQUIREMENTS

120.K307.1 **Manufacturer's Installation instructions.** The installation instructions as provided by the manufacturer of the manufactured home shall be used to determine permissible points of support for vertical loads and points of attachment for anchorage systems used to resist horizontal and uplift forces.

780 CMR 120.K304 FOUNDATION SYSTEMS

120.K304.1 General. Foundation systems designed and constructed ***for Manufactured Housing used as residential dwellings must be*** considered as a permanent ***foundations designed and placed to address frost conditions***.

120.K304.2 Foundation Design. See 780 CMR generally and 780 CMR 54.00 specifically.

120.K305 SKIRTING AND PERIMETER ENCLOSURES

120.K305.1 **Skirting and Permanent Perimeter Enclosures**. Skirting and permanent perimeter enclosures shall be installed only where specifically required by other laws or ordinances. Skirting, when installed, shall be of material suitable for exterior exposure and contact with the ground. Permanent perimeter enclosures shall be constructed of materials as required by this code for regular foundation construction.

Skirting shall be installed in accordance with the skirting manufacturer's installation instructions. Skirting shall be adequately secured to assure stability, to minimize vibration and susceptibility to wind damage, and to compensate for possible frost heave.

120.K305.2 **Retaining Walls**. Where retaining walls are used as a permanent perimeter enclosure, they shall resist the lateral displacements of soil or other materials and shall conform to 780 CMR as specified for foundation walls. Retaining walls and foundation walls shall be constructed of approved treated wood, concrete, masonry or other approved materials or combination of materials as for foundations as specified in this code. Siding materials shall extend below the top of the exterior of the retaining or foundation wall or the joint between siding and enclosure wall shall be flashed in accordance with 780 CMR.

780 CMR 120.K306 STRUCTURAL ADDITIONS

120.K306.1 **General.** Accessory buildings shall not be structurally supported by or attached to a manufactured home unless engineering calculations are submitted to substantiate any proposed structural connection.

Exception: The building official may waive the submission of engineering calculations if it is found that the nature of the work applied for is such that engineering calculations are not necessary to show conformance to 780 CMR.

780 CMR 120.K307 BUILDING SERVICE EQUIPMENT

120.K307.1 **General**. ***The installation, alteration, repair, replacement, addition to or maintenance of the building service equipment within the manufactured home shall conform to regulations set forth in the applicable Specialized Codes and otherwise in accordance with the requirements of the Manufacturer of the Manufactured Home. All such work which is located outside the manufactured home shall comply with the applicable Specialized Codes***.

780 CMR 120.K308 EXITS

120.K308.1 **Site Development**. Exterior stairways and ramps which provide egress to the public way shall comply with applicable provisions of 780 CMR.

120.K308.2 **Accessory Buildings**. Every accessory building or portion thereof shall be provided with exits as required by 780 CMR.

120.K309.1 General. Alterations made to a manufactured home subsequent to its initial installation shall conform to the occupancy, fire–safety and energy conservation requirements set forth in the Manufactured Home Standards ***or 780 CMR when applicable.***

780 CMR 120.K309 OCCUPANCY, FIRE SAFETY AND ENERGY CONSERVATION STANDARDS

780 CMR 120.K310 SPECIAL REQUIREMENTS FOR FOUNDATION SYSTEMS

120.K310.1 General. 780 CMR 120.K310 is applicable only when specifically authorized by the building official and the building official is provided appropriate engineering support of intended foundation design.

780 CMR 120.K311 FOOTINGS AND FOUNDATIONS

120.K311.1 General. The capacity of individual load–bearing piers and their footings shall be sufficient to sustain all loads specified in this code within the stress limitations specified in 780 CMR. Footings, unless otherwise approved by the building official, shall be placed level on firm, undisturbed soil or an engineered fill which is free of organic material, such as weeds and grasses. Where used, an engineered fill shall provide a minimum load–bearing capacity of not less than 1,000 psf (48 kN/m^2). Continuous footings shall conform to the requirements of this code. ***780 CMR 120.K304*** shall apply to footings and foundations constructed under the provisions of 780 CMR 120.K311.

780 CMR 120.K312 PIER CONSTRUCTION

120.K312.1 General. Piers shall be designed and constructed to distribute loads evenly. Multiple section homes may have concentrated roof loads which will require special consideration. Load–bearing piers may be constructed utilizing one of the methods listed in 780 CMR 120.K312.1 Items 1. through 3. Such piers shall be considered to resist only vertical forces acting in a downward direction. They shall not be considered as providing any resistance to horizontal loads induced by wind or earthquake forces.

1. A prefabricated load–bearing device that is listed and labeled for the intended use.
2. Mortar shall comply with ASTM C 270 Type M, S or N; this may consist of one part portland cement, one–half part hydrated lime and four parts sand by volume. Lime shall not be used with plastic or waterproof cement.
3. A cast–in–place concrete pier with concrete having specified compressive strength at 28 days of 2,500 psi (17 225 kPa).

Alternate materials and methods of construction may be used for piers which have been designed by an engineer or architect licensed by the state to practice as such.

Caps and leveling spacers may be used for leveling of the manufactured home. Spacing of piers shall be as specified in the manufacturer's installation instructions, if available, or by an approved designer.

780 CMR 120.K313 HEIGHT OF PIERS

120.K313.1 General. Piers constructed as indicated in ***780 CMR 120.K312*** may have heights as follows:

1. Except for corner piers, piers 36 inches (914 mm) or less in height may be constructed of masonry units, placed with cores or cells vertically. Piers shall be installed with their long dimension at right angles to the main frame member they support and shall have a minimum cross–sectional area of 128 square inches (82 560 mm^2). Piers shall be capped with minimum four–inch (102 mm) solid masonry units or equivalent.
2. Piers between 36 and 80 inches (914 mm and 2032 mm) in height and all corner piers over 24 inches (610 mm) in height shall be at least 16 inches by 16 inches (406 mm by 406 mm) consisting of interlocking masonry units and shall be fully capped with minimum four–inch (102 mm) solid masonry units or equivalent.
3. Piers over 80 inches (2032 mm) in height may be constructed in accordance with the provisions of 780 CMR 120.K313.1., Item 2., provided the piers shall be filled solid with grout and reinforced with four continuous No. 5 bars. One bar shall be placed in each corner cell of hollow masonry unit piers or in each corner of the grouted space of piers constructed of solid masonry units.
4. Cast–in–place concrete piers meeting the same size and height limitations of 780 CMR 120.K313.1., Items 1., 2. and 3. may be substituted for piers constructed of masonry units.

780 CMR 120.K314 ANCHORAGE INSTALLATIONS

120.K314.1 Ground Anchors. Ground anchors shall be designed and installed to transfer the anchoring loads to the ground. The load–carrying portion of the ground anchors shall be installed to the full depth called for by the manufacturer's installation directions and shall extend below the established frost line into undisturbed soil.

Manufactured ground anchors shall be listed and installed in accordance with the terms of their listing and the anchor manufacturer's instructions and shall include means of attachment of ties

Each approved ground anchor, when installed, shall be capable of resisting an allowable working load at least equal to 3,150 pounds (14 kN) in the direction of the tie plus a 50% overload [4,725 pounds (21 kN) total] without failure. Failure shall be considered to have occurred when the anchor moves more than two inches (51 mm) at a load of 4,725 pounds (21 kN) in the direction of the tie installation. Those ground anchors which are designed to be installed so that loads on the anchor are other than direct withdrawal shall be designed and installed to resist an applied design load of 3,150 pounds (14 kN) at 40 to 50 degrees from vertical or within the angle limitations specified by the home manufacturer without displacing the tie end of the anchor more than four inches (102 mm) horizontally. Anchors designed for connection of multiple ties shall be capable of resisting the combined working load and overload consistent with the intent expressed in 780 CMR 120.K314.

When it is proposed to use ground anchors and the building official has reason to believe that the soil characteristics at a given site are such as to render the use of ground anchors advisable, or when there is doubt regarding the ability of the ground anchors to obtain their listed capacity, the building official may require that a representative field installation be made at the site in question and tested to demonstrate ground anchor capacity. The building official shall approve the test procedures.

120.K314.2 Anchoring Equipment. Anchoring equipment, when installed as a permanent installation, shall be capable of resisting all loads as specified within 780 CMR 120.K. When the stabilizing system is designed by an engineer or architect licensed by the state to practice as such, alternative designs may be used, providing the anchoring equipment to be used is capable of withstanding a load equal to 1.5 times the calculated load. All anchoring equipment shall be listed and labeled as being capable of meeting the requirements of 780 CMR 120.K. Anchors as specified in 780 CMR may be attached to the main frame of the manufactured home by an approved meeting the requirements of ***780 CMR 120.K311***. Ground anchor manufacturer's installation instructions shall include the amount of preload required and load capacity in various types of soil. These instructions shall include tensioning adjustments which may be needed to prevent damage to the manufactured home, particularly damage that can be caused by frost heave. Each ground anchor shall be marked with the manufacturer's identification and listed model identification number which shall be visible after installation. Instructions shall accompany each listed ground anchor specifying the types of soil for which the anchor is suitable under the requirements of 780 CMR 120.K314

$^{3}/_{16}$–inch–thick (4.76 mm) slotted steel plate anchoring device. Other anchoring devices or methods meeting the requirements of 780 CMR 120.K314 may be permitted when approved by the building official.

Anchoring systems shall be so installed as to be permanent. Anchoring equipment shall be so designed to prevent self–disconnection with no hook ends used.

120.K314.3 Resistance to Weather Deterioration. All anchoring equipment, tension devices and ties shall have a resistance to deterioration as required by 780 CMR.

120.K314.4 **Tensioning Devices**. Tensioning devices, such as turnbuckles or yoke–type fasteners, shall be ended with clevis or welded eyes.

780 CMR 120.K315 TIES, MATERIALS AND INSTALLATION

120.K315.1 General. Steel strapping, cable, chain or other approved materials shall be used for ties. All ties shall be fastened to ground anchors and drawn tight with turnbuckles or other adjustable tensioning devices or devices supplied with the ground anchor. Tie materials shall be capable of resisting an allowable working load of 3,150 pounds (14 kN) with no more than 2% elongation and shall withstand a 50% overload [4,750 pounds (21 kN)]. Ties shall comply with the weathering requirements of 780 CMR 120.K314.3. Ties shall connect the ground anchor and the main structural frame. Ties shall not connect to steel outrigger beams which fasten to and intersect the main structural frame unless specifically stated in the manufacturer's installation instructions. Connection of cable ties to main frame members shall be _–inch (15.9 mm) closed–eye bolts affixed to the frame member in an approved manner. Cable ends shall be secured with at least two U–bolt cable clamps with the "U" portion of the clamp installed on the short (dead)

end of the cable to assure strength equal to that required by 780 CMR 120.K315.

Wood floor support systems shall be fixed to perimeter foundation walls in accordance with provisions of 780 CMR. The minimum number of ties required per side shall be sufficient to resist the wind load stated in 780 CMR. Ties shall be evenly spaced as practicable along the length of the manufactured home with the distance from each end of the home and the tie nearest that end not exceeding eight feet (2438 mm). When continuous straps are provided as vertical ties, such ties shall be positioned at rafters and studs. Where a vertical tie and diagonal tie are located at the same place, both ties may be connected to a single anchor, provided the anchor used is capable of carrying both loadings. Multisection manufactured homes require diagonal ties only. Diagonal ties shall be installed on the exterior main frame and slope to the exterior at an angle of 40 to 50 degrees from the vertical or within the angle limitations specified by the home manufacturer. Vertical ties which are not continuous over the top of the manufactured home shall be attached to the main frame.

780 CMR 120.K316 REFERENCED STANDARDS

ASTMC 270-01a	Specification for Mortar for Unit Masonry	120.K313
NFP 501-99	Standard on Manufactured Housing	120.K201

780 CMR 120.L

MANUFACTURED BUILDINGS, MANUFACTURED BUILDING COMPONENTS AND MANUFACTURED HOUSING

(Note: This Regulation is unique to Massachusetts)

780 CMR 120.L101 GENERAL

120.L101.1 Scope. The provisions of 780 CMR 120.L shall govern the materials, design, manufacture, handling, storage, transportation, assembly, construction and/or installation of *manufactured buildings* and *manufactured building components* intended for installation in the Commonwealth of Massachusetts. *manufactured buildings* or *manufactured building components* shall not be installed in any jurisdiction of the Commonwealth of Massachusetts unless such *manufactured buildings* or *manufactured building components* have been approved and certified in accordance with 780 CMR 120.L, applicable provisions of 780 CMR, and the Rules and Regulations for *manufactured buildings*, *Manufactured Building Components* and *Manufactured Housing*, 780 CMR 110.R3, as listed in 780 CMR 100.00.

120.LI01.2 Manufactured Housing. See 780 CMR 120.K.

780 CMR 120.L102 DEFINITIONS

120.L102.1 General. For the purposes of 780 CMR 120.L and as used elsewhere in 780 CMR, the following words and terms shall have the meaning shown in 780 CMR 120.L.102.1

APPROVED. Approval by the State Board of Building Regulations and Standards (BBRS).

CERTIFICATION. Any manufactured building, manufactured building component or *manufactured housing* which meets the provisions of applicable codes and 780 CMR 110.R3 pursuant thereto, as listed in 780 CMR 35.00 or 100.00, which has been labeled accordingly.

CODE. 780 CMR (The Commonwealth of Massachusetts State Building Code) or specialized codes as defined in 780 CMR and as listed in 780 CMR 35.00 or 780 CMR 100.00

DEPARTMENT (DPS). The Department of Public Safety, Division of Inspections.

INSPECTION AGENCY. An independent agency, sometimes referred to as the "third-party agency," retained by the manufacturer and approved by the BBRS to perform inspections and evaluations of manufactured building systems, compliance assurance programs, *manufactured buildings* and *manufactured building components*.

INSTALLATION. The process of affixing, or assembling and affixing a manufactured building, manufactured building component or manufactured housing unit(s) on the building site, and connecting it to utilities, and/or to an existing building. Installation may also mean the connecting of two or more manufactured housing units designed and approved to be so connected for use as a dwelling.

INSTALLER OF MANUFACTURED BUILDING. An individual, who on the basis of training and experience, has been certified by a specific manufacturer of manufactured homes as competent to supervise the placement and connection required to install the manufactured homes of that manufacturer. Said certification by the manufacturer shall be in writing; additionally, the certified installer shall possess picture identification in the form of a driver's license or other picture identification acceptable to the building official.

LABEL. An approved device or seal evidencing certification in accordance with the applicable codes and rules and regulations promulgated pursuant thereto, and as listed in 780 CMR 100.R3.

LOCAL ENFORCEMENT AGENCY. A department or agency in a municipality charged with the enforcement of 780 CMR and appropriate Specialized Codes which include, but are not limited to, 248 CMR (the State Fuel Gas and Plumbing Code) and 527 CMR 12.00 (the State Electrical Code), as listed in 780 CMR 35.00.

MANUFACTURED BUILDING. Any manufactured building which has concealed elements, such as electrical, mechanical, plumbing, fire protection, insulation, and other systems affec-ting health and safety, and which is manufactured or assembled in accordance with 780 CMR and pertinent regulations, in manufacturing facilities, on or off the building site. Also, any manufactured building as defined above which does not have concealed elements, but which has been approved by the BBRS at the request of the manufacturer. "Manufactured building" does not mean "manufactured home."

MANUFACTURED BUILDING COMPONENT. Any manufactured subsystem, manufactured subassembly, or other manufactured system designed for use in or part of a structure having concealed elements such as electrical, mechanical, plumbing and fire protection systems and other systems affecting health and safety, including variations which are submitted as part of the building systems.

MANUFACTURED HOMES (Housing). As defined in 24 CFR, Part 3280.2; a structure, transportable in one or more sections, which in the traveling mode, is eight body feet or more in width or 40 body feet or more in length, or, when erected on site, is 320 or more square feet, and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air-conditioning, and electrical systems contained therein. C120 calculations used to determine the number of square feet in a structure will be based on the structure's exterior dimensions measured at the largest horizontal projections when erected on site. These dimensions will include 120.1 all expandable rooms, cabinets, and other projections containing interior space, but do not include bay windows. (See 24 CFR, Part 3280.2 for a more detailed description of manufactured homes as defined by the Department of Housing and Urban Development.)

SPECIALIZED CODE. All building codes, rules or regulations pertaining to building construction, reconstruction, alteration, repair, or demolition promulgated by and under the authority of the various agencies which have been authorized from time to time by the General Court of the Commonwealth of Massachusetts. The Specialized Codes shall include, but are not limited to, 248 CMR (the State Fuel Gas and Plumbing Code) and 527 CMR 12.00 (the Electrical Code), as listed in 780 CMR .35.00 or 780 CMR 100.00.

780 CMR 120.L103 CONSTRUCTION DOCUMENTS

120.LI03.1 Building System Plans. The building system plans shall show in sufficient detail the approved system to which the manufactured building or building component was produced; including foundation connection details, component connection details, emergency escape window locations and sizes, structural design loads, the manufacturer's data plate, the location of all labels required of 780 CMR 120.L and 780 CMR 110.R3, and other details as may be required by the Division of Inspection. The building system plan shall bear evidence of the approval of the Division of Inspection and evidence of third-party engineering review.

780 CMR 120.L104 APPROVAL

120.LI04.1 General. The Commonwealth of Massachusetts, Department of Public Safety, Division of Inspection (hereinafter referred to as the "Division of Inspection" in 780 CMR 120.L) shall evaluate *manufactured buildings* and building components and recommend approval to the BBRS of those which it determines to be in compliance with applicable sections of 780 CMR 120.L, other applicable sections of 780 CMR, and 780 CMR 110.R3, as listed in 780 CMR 35.00 or 780 CMR 100.00.

All approvals of plumbing, electrical or gas systems shall be made by the appropriate state agencies having jurisdiction, as specified in 780 CMR 110.R3, as listed in 780 CMR 35.00 or 780 CMR 100.00

120.L104.2 Approved Tests. The Division of Inspection may utilize the results of approved tests to determine whether a manufactured building or manufactured building component meets the requirements of 780 CMR 120.L and the 780 CMR 110.R3 as listed in 780 CMR 35.00 or 780 CMR 100.00, if that determination cannot be made from evaluation of plans, specifications and documentation alone.

120.LI04.3 Approval of Compliance Assurance Programs. The Division of Inspection shall evaluate manufacturers' compliance assurance programs and make recommendations for approval to the BBRS of those which it determines to be in compliance with 780 CMR 120.L and 780 CMR 110.R3, listed in 780 CMR 35.00 or 780 CMR 100.00.

120.LI04.4 Authorization to Vary. A manufactured building, manufactured building component or a compliance assurance program approved in accordance with 780 CMR 120.L103.3, shall not be varied in any way without prior authorization by the BBRS in accordance with 780 CMR 110.R3, as listed in 780 CMR 35.00 or 780 CMR 100.00.

780 CMR 120.L105 CERTIFICATION

120.L105.l Labeling. Any manufactured building or manufactured building component heretofore approved, in accordance with 780 CMR 120.L104, shall have an approved device or seal affixed as certification of such approval.

780 CMR 120.L106 RECIPROCITY

120.LI06.1 General. If the BBRS finds that the standards for manufacture and inspection of *manufactured buildings* or *manufactured building components* prescribed by the statutes or the rules and regulations of another state or other govern-mental agency meet the objectives of 780 CMR 120.L and 780 CMR 110.R3, listed in 780 CMR 35.00 or 780 CMR 100.00, and such standards are enforced satisfactorily by such other state or governmental agency or by its agents, the BBRS may grant approval and the Division of

Inspection shall accept all *manufactured buildings* or *manufactured building components* which have been approved in accordance with 780 CMR 120.L106 by such other state or governmental

120.L106.1.1 Condition of Reciprocity. The standards of another state shall not be deemed to be satisfactorily enforced unless such other state provides for notification to the BBRS of suspensions or revocations of approvals issued by that state, in a manner satisfactory to the BBRS.

120.LI06.2 Suspension of Reciprocal Approval. Upon recommendation from the Division of Inspection, the BBRS shall suspend or cause to be suspended reciprocal approval for the following reasons:

1. Determination that the standards for the manufacture and inspection of such *manufactured buildings* or *manufactured building components* of another state or other governmental agency do not meet the objectives of 780 CMR l20.L and 780 CMR 110.R3, listed in 780 CMR 100.00, or that the standards are not being enforced to the satisfaction of the Division of Inspection or BBRS; and
2. If another state or governmental agency, or its agent, suspends or revokes said approval, the approval granted under 780 CMR 120.L106.2 shall be suspended or revoked accordingly.

780 CMR 120.L107 ASSURANCE INSPECTION

120.L107.1 General. Any person or firm producing *manufactured buildings* or *manufactured building components* applying for certification shall agree in writing that the Division of Inspection or the BBRS has the right to conduct unannounced inspections at any reasonable time.

120.LI07.2 Responsibilities of Division of Inspection. The Division of Inspection shall carry out the following responsibilities:

1. Periodically make, or cause to be made, inspections of the entire process of the production of *manufactured buildings* or *manufactured building components* in order to verify the reliability of the compliance assurance program and of the approved inspection agency.
2. In addition to other on-site inspection provided for in 780 CMR 120.L107.2, the Division of Inspection shall inspect, or cause to be inspected, certified *manufactured buildings* or *manufactured building components* which it de-termines to have been sufficiently damaged after certification to warrant such action with regard to such *manufactured buildings* or *manufactured building components* as is authorized hereof, or as is otherwise necessary to eliminate dangerous conditions.

Note: An inspection entailing disassembly, damage to or destruction of certified *manufactured buildings* or *manufactured building components* shall not be conducted except to implement the provisions of 780 CMR 120.L.

780 CMR 120.L 108 RESPONSIBILITY OF THE LOCAL ENFORCEMENT AGENCIES

120.LI08.1 Issuance of Building Permits. Upon application and in conformity with the provisions of 780 CMR, the building official shall issue building permits for installation of certified *manufactured buildings*, *manufactured building components* or *manufactured housing*.

120.LI08.1.1 Licensed Construction Supervisors and Certified Installers. A construction supervisor, duly licensed in accordance with 780 CMR 110.R5, shall, in accordance with 780 CMR 108.3.5 of the *Sixth Edition of the Massachusetts State Building Code*, act as the agent for the owner for the purpose of applying for and obtaining any and all building permits required for the field erection of all one- or two-family manufactured dwellings subject to the provisions of 780 CMR 120.L and applicable 780 CMR 110.R3.

As part of the building permit application process, the licensed construction supervisor shall submit to the building official, in writing, the name of the installer, who shall be duly certified by the manufacturer to install said manufacturer's product, and is identified as a certified installer of *manufactured buildings* (certified installer) by said manufacturer. The certified installer shall be responsible for the safe and proper placement and connection of the manufactured home units in accordance with 780 CMR 120.L, 780 CMR 110.R3 and specialized codes as listed in 780 CMR 35.00 or 780 CMR 100.00.

The licensed construction supervisor shall be responsible for the construction of the foundation system, and all pertinent site work, in accordance with 780 CMR 120.L and 780 CMR 110.R3 listed in 780 CMR 110.00. The licensed construction supervisor shall provide at least 48 hours notice to the building official before the placement and connection of such units shall begin.

120.LI08.2 Inspection. The local enforcement agency shall make the following inspections:

1. The site preparation work, including found-ations, installation of any certified
2. Inspect all certified *manufactured buildings* or *manufactured building components* or approved manufactured homes upon, or promptly after, installation at the building sites to determine whether all applicable instructions or conditions have been followed. This may include tests for tightness of plumbing and mechanical systems, for malfunctions in the electrical system, and a visual inspection for obvious violations of 780 CMR 110.R3. Destructive disassembly of certified *manufactured buildings* or *manufactured building components* or approved manufactured homes shall not be performed in order to conduct such inspections. Nondestructive disassembly may be performed only in accordance with 780 CMR 110.R3.

Note: Notification to the BBRS. When any local enforcement agency finds a violation or suspects a violation exists, said violation or suspected violation shall be reported to the BBRS in accordance with 780 CMR 110.R3.5.6.

120.LI08.3 Issuance of Certificates of Occupancy. The building official shall issue a certificate of occupancy for all certified *manufactured buildings* or approved manufactured homes that have been installed and inspected and that meet the requirements of 780 CMR.

manufactured buildings or *manufactured building components* or approved homes; and for all utility service connections, including plumbing, electrical, gas, water and sewer; for compliance with the applicable codes.

780 CMR 120.L 109 SUSPENSION OR REVOCATION OF CERTIFICATION

120.L109.1 General. The Board shall suspend or revoke the approval of any manufactured building or manufactured building component which does not comply with the provisions of 780 CMR 120.L, 780 CMR generally or 780 CMR 110.R3.

120.LI09.2 Labels of Certification. The Division of Inspection shall remove or cause to be removed the label of certification from any such manufactured building or building component not in compliance until such time as it is brought into compliance with 780 CMR 120.L and 780 CMR 110.R3.

120.LI09.3 Notice of Suspension or Revocation. Notice shall be submitted in writing to the affected parties stating the reason for the suspension or revocation.

120.LI09.4 Appeals Procedure. All appeals from suspension or revocation shall be heard by the State Building Code Appeals Board as specified in the pertinent provisions of 780 CMR 122 or 780 CMR 5122.0

780 CMR 120.M

SWIMMING POOLS, SPAS AND HOT TUBS

780 CMR 120.M101 GENERAL

120.M101.1 General. The provisions of 780 CMR 120.M shall control the design and construction of swimming pools, spas and hot tubs.

Note 1: Public and semi-public outdoor in-ground swimming pool enclosures shall conform to the requirements of M.G.L. c. 140, § 206.

Note 2: Also see 521 CMR 19.00: Recreational Facilities.

Note 3: Also see 105 CMR 430.000 and 435.000 as such regulates swimming pool requirements.

Note 4: Installation of electrical wiring and electrical devices shall be in accordance with 527 CMR 12.00: Massachusetts Electrical Code.

Note 5. Installation of gas-fired pool heaters shall be in accordance with 248 CMR (the Massachusetts Fuel Gas and Plumbing Code).

780 CMR 120.M102 DEFINITIONS

120.M102.1 General. For the purposes of 780 CMR 120.M, the terms used shall be defined as follows and as set forth in 780 CMR 52.00.

ABOVE–GROUND/ON–GROUND POOL. See "Swimming Pool."

BARRIER. A fence, wall, building wall or combination there–of which completely surrounds the swimming pool and obstructs access to the swimming pool.

HOT TUB. See "Swimming Pool."

IN–GROUND POOL. See "Swimming Pool."

RESIDENTIAL. That which is situated on the premises of a detached one– or two–family dwelling or a one–family town–house not more than three stories in height.

SPA, NONPORTABLE. See "Swimming Pool."

SPA, PORTABLE. A nonpermanent structure intended for recreational bathing, in which all controls, water–heating and water–circulating equipment are an integral part of the product.

SWIMMING POOL. Any structure intended for swimming or recreational bathing that contains water over 24 inches (610 mm) deep. This includes in–ground, aboveground and on–ground swimming pools, hot tubs and spas.

SWIMMING POOL, INDOOR. A swimming pool which is totally contained within a structure and surrounded on all four sides by walls of said structure.

SWIMMING POOL, OUTDOOR. Any swimming pool which is not an indoor pool.

780 CMR 120.M103 SWIMMING POOLS

120.M103.1 In–ground Pools. In–ground pools shall be designed and constructed in conformance with ANSI/NSPI–5 as listed in 780 CMR 120.M107.

120.M103.2 Above–ground and On–ground Pools. Above–ground and on–ground pools shall be designed and constructed in conformance with ANSI/NSPI–4 as listed in 780 CMR 120.M107.

780 CMR 120.M104 SPAS AND HOT TUBS

120.M104.1 Permanently Installed Spas and Hot Tubs. Permanently installed spas and hot tubs shall be designed and constructed in conformance with ANSI/NSPI–3 as listed in 780 CMR 120.M107.

120.M104.2 Portable Spas and Hot Tubs. Portable spas and hot tubs shall be designed and constructed in conformance with ANSI/NSPI–6 as listed in 780 CMR 120.M107.

780 CMR 120.M105 BARRIER REQUIREMENTS

120.M105.1 Application. The provisions of 780 CMR 120.M shall control the design of barriers for residential swimming pools, spas and hot tubs. These design controls are intended to provide protection against potential drowning and near–drowning by restricting access to swimming pools, spas and hot tubs.

120.M105.2 Outdoor Swimming Pool. An outdoor swimming pool, including an in–ground, aboveground or on–ground pool, hot tub or spa shall be provided with a barrier which shall comply with the following:

1. The top of the barrier shall be at least 48 inches (1219 mm) above grade measured on the side of the barrier which faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be two inches (51 mm) measured on the side of the barrier which faces away from the swimming pool. Where the top of the pool structure is above grade, such as an aboveground pool, the barrier may be at ground level, such as the pool structure, or mounted on top of the pool structure. Where the barrier is mounted on top of the pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be four inches (102 mm).

2. Openings in the barrier shall not allow passage of a four–inch–diameter (102 mm) sphere.

3. Solid barriers which do not have openings, such as a masonry or stone wall, shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.

4. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is less than 45 inches (1143 mm), the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed 1.75 inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches (44 mm) in width.

5. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches (1143 mm) or more, spacing between vertical members shall not exceed four inches (102 mm). Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches (44 mm) in width.

6. Maximum mesh size for chain link fences shall be a 2.25–inch (57 mm) square unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to not more than 1.75 inches (44 mm).

7. Where the barrier is composed of dimensional members, such as a lattice fence, the maximum opening formed by the dimensional members shall not be more than 1.75 inches (44 mm).

8. Access gates shall comply with the requirements of 780 CMR 120.M105.2, Items 1 through 7, and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward away from the pool and shall be self–closing and have a self–latching device. Gates other than pedestrian access gates shall have a self–latching device. Where the release mechanism of the self–latching device is located less than 54 inches (1372 mm) from the bottom of the gate, the release mechanism and openings shall comply with the following:

8.1. The release mechanism shall be located on the pool side of the gate at least three inches (76 mm) below the top of the gate, and

8.2. The gate and barrier shall have no opening greater than 0.5 inch (12.7 mm) within 18 inches (457 mm) of the release mechanism.

9. Where a wall of a dwelling serves as part of the barrier one of the following conditions shall be met:

9.1. The pool shall be equipped with a powered safety cover in compliance with ASTM F1346; or

9.2. All doors with direct access to the pool through that wall shall be equipped with an alarm which produces an audible warning when the door and its screen, if present, are opened. The alarm shall sound continuously for a minimum of 30 seconds immediately after the door is opened and be capable of being heard throughout the house during normal house–hold activities. The alarm shall automatically reset under all conditions. The alarm system shall be equipped with a manual means, such as touchpad or switch, to temporarily deactivate the alarm for a single opening. Such deactivation shall last for not more than 15 seconds. The deactivation switch(es) shall be located at least 54 inches (1372 mm) above the threshold of the door; or

9.3. Other means of protection, such as self–closing doors with self–latching devices, which are approved by the governing body, shall be acceptable so long as the degree of protection afforded is not less than the protection afforded by 780 CMR 120.M105.2., Item 9.1 or 9.2.

10. Where an aboveground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure, and the means of access is a ladder or steps, then:

10.1. The ladder or steps shall be capable of being secured, locked or removed to prevent access, or

10.2. The ladder or steps shall be surrounded by a barrier which meets the requirements of 780 CMR 120.M105.2., Items 1 through 9. When the ladder or steps are secured, locked or removed, any opening created shall not allow the pass 120.Me of a four–inch–diameter (102 mm) sphere.

Note that for private, above ground pools:

1. The pool wall of an outdoor, above-ground pool (with pool walls extending at least 48 inches above grade at all points along the pool), substitutes for a fence or other barrier around the pool with the exception of the ladder area of the pool.

2. A retractable, lockable ladder, that cannot be removed (without tools or special knowledge available to a small child), which retracts, by hinge or sliding mechanism, to 48 inches or more above the finished grade level and has provision for securing in the retracted mode with a locking device, shall be considered an acceptable alternative to the applicable required enclosure (fence or other gate barrier) of the 780 CMR 421 (6th Edition

Building Code), or 780 CMR 120.M (7th Edition Building Code for One- and 3. The retractable ladder locking/release device must be located at least 54 inches above the finished grade level in immediate vicinity of the retractable ladder or such locking/release mechanism shall be located on the pool side of the ladder (forcing "reach around") and located at least three inches below the top of the ladder and the ladder shall not have an opening greater than ½ inch within 18 inches of the locking/release mechanism.

Exception: Public and semi-public outdoor in-ground swimming pool enclosures shall conform to the requirements of M.G.L. c. 140, § 206.

120.M105.3 Indoor Swimming Pool. All walls surrounding an indoor swimming pool shall comply with 780 CMR 120.M105.2, Item 9.

120.M105.4 Prohibited Locations. Barriers shall be located so as to prohibit permanent structures, equipment or similar objects from being used to climb the barriers.

120.M105.5 Barrier Exceptions. Spas or hot tubs with a safety cover which complies with ASTM F 1346, as listed in 780 CMR 120.M107, shall be exempt from the provisions of 780 CMR 120.M.

780 CMR 120.M106 ENTRAPMENT PROTECTION FOR SWIMMING POOL AND SPA SUCTION OUTLETS

120.M106.1 General. Suction outlets shall be designed to produce circulation throughout the pool or spa. Single outlet systems, such as automatic vacuum cleaner systems, or other such multiple suction outlets whether isolated by valves or otherwise shall be protected against user entrapment.

Note: Also refer to 105 CMR 430.000 and 435.000.

120.M106.2 Suction Fittings. All Pool and Spa suction outlets shall be provided with a cover that conforms with ANSI/ASME A112.19.8M, or a 12I 12I drain grate or larger, or an approved channel drain system.

Exception: Surface skimmers

120.M106.3 Atmospheric Vacuum Relief System Required. All pool and spa single or multiple outlet circulation systems shall be

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equipped with atmospheric vacuum relief should grate covers located therein become missing or broken. Such vacuum relief systems shall include at least one approved or engineered method of the type specified herein, as follows:

1. Safety vacuum release system conforming to ASME A112.19.17, or
2. An approved gravity drainage system.

120.M106.4 Dual Drain Separation. Single or multiple pump circulation systems shall be provided with a minimum of two suction outlets of the approved type. A minimum horizontal or vertical distance of three feet shall separate such outlets. These suction outlets shall be piped so that water is drawn through them simultaneously through a vacuum relief–protected line to the pump or pumps.

120.M106.5 Pool Cleaner Fittings. Where provided, vacuum or pressure cleaner fitting(s) shall be located in an accessible position(s) at least six inches and not greater than twelve inches below the minimum operational water level or as an attachment to the skimmer(s).

780 CMR 120.M107 ABBREVIATIONS

120.M107.1 General.

ANSI—American National Standards Institute
11 West 42nd Street, New York, NY 10036
ASTM—American Society for Testing and Materials
1916 Race Street, Philadelphia, PA 19103
NSPI—National Spa and Pool Institute
2111 Eisenhower Avenue, Alexandria, VA 22314

780 CMR 120.M108 STANDARDS

120.M108.1 General.

ANSI/NSPI
ANSI/NSPI–3–99 Standard for Permanently Installed Residential Spas AG104.1
ANSI/NSPI–4–99 Standard for Above-ground/ On-ground Residential Swimming Pools AG103.2
ANSI/NSPI–5–99 Standard for Residential In-ground Swimming Pools AG103.1
ANSI/NSPI–6–99 Standard for Residential Portable Spas AG104.2
ANSI/ASME A112.19.8M–1987 Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, Hot Tubs and Whirlpool Bathing Appliances AG106.2

ASTM

ASTM F 1346–91 (1996) Performance Specification for Safety Covers and Labeling Requirements for All Covers for Swimming Pools, Spas and Hot Tubs AG105.2, AG105.5

ASME

ASME A112.19.17 Manufacturers Safety Vacuum Release Systems (SVRS) for Residential and Commercial Swimming Pool, Spa, Hot Tub and Wading Pool AG106.3

NON-TEXT PAGE

780 CMR 120.N

PRIVATE SEWAGE DISPOSAL

780 CMR 120.N101 GENERAL

120.N101.1 Scope. Private sewage disposal systems shall conform to 310 CMR 15.000 (Title 5 of the State Sanitary Code).

Note: For flows over 10,000 gallons see 314 CMR 5.00.

NON-TEXT PAGE

780 CMR 120.O

SOUND TRANSMISSION

780 CMR 120.O101 GENERAL

120.O101.1 General. Wall and floor-ceiling assemblies separating dwelling units shall provide airborne sound insulation for walls, and both airborne and impact sound insulation for floor-ceiling assemblies.

780 CMR 120.O102 AIR-BORNE SOUND

120.O102.1 General. Air-borne sound insulation for wall and floor-ceiling assemblies shall meet a Sound Transmission Class (STC) rating of 45 when tested in accordance with ASTM E 90.

780 CMR 120.O103 STRUCTURAL-BORNE SOUND

120.O103.1 General. Floor/ceiling assemblies between dwelling units or between a dwelling unit and a public or service area within a structure shall have an Impact Insulation Class (IIC) rating of not less than 45 when tested in accordance with ASTM E 492.

780 120.0104 REFERENCED STANDARDS

ASTM E90-99 Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements 780 CMR 120.O102

ASTM E 492-90 (1996)e Specification for Laboratory Measurement of Impact Sound Transmission through Floor-ceiling Assemblies Using the Tapping Machine 780 CMR 120.O103

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